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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

LEONARD, MICHAEL L

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1763

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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

CONTINUATION SHEET

Applicant's arguments filed 12/7/2010 have been fully considered but they are not persuasive. Applicants argue that the claimed invention has not been rendered obvious over the combination of references to Farrissey and Kohlstruck ('178) in view of Joern and Kohlstruck ('817) for 4 reasons.

1) The first being that the equivalence between alpha-hydroxy carboxylates and non-alpha hydroxy carboxylates are not correct because the examiner's interpretation of Joern is incorrect (tertiary vs. quaternary argument).

2) The second being that the data presented in the tables clearly show an unobvious difference between alpha-hydroxy carboxylates and non-alpha hydroxy carboxylates in terms of the color number of the final isocyanurate conversion component.

3) The third being the lactic acid component of Joern is known to act as a blowing agent.

4) The fourth being the Kohlstruck reference ('178) suggests that adding an hydroxyl group to the quaternary ammonium compound actually results in a higher color number for the isocyanurate component and a person of ordinary skill in the art would not have been inclined to add hydroxyl-functionality to the catalyst during the isocyanurate conversion process.

In response to issue 1), firstly the Joern reference clearly discloses that any trimerization catalyst can be used in combination with the modified carboxylic acid

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component (0013). The selection of tertiary components is only a preferred embodiment and does not encompass the full breadth of the Joern invention, which suggests that in combination with any known trimerization catalyst, a modified carboxylic acid component, including alpha-hydroxy modified, results in a higher isocyanurate conversion. Secondly, the primary references already disclosed the quaternary ammonium component as a trimerization catalyst. As such, when reading the Joern reference it would have been prima facie obvious to replace the carboxylic acid of the primary references with the modified carboxylic acids of the Joern reference because Joern clearly discloses that any compound known to catalyze trimerisation reaction can be used. The combination of the quaternary ammonium compound from Kohlstruck and Farrisey and the modified carboxylic acid component of Joern still renders the presently claimed invention obvious because the use of carboxylic acids for isocyanurate conversion is known and that from the disclosure of Joern the carboxylic acid can be chosen from alpha-hydroxy, beta-hydroxy or no-hydroxy and the conversion from isocyanate to isocyanurate will still proceed.

In response to issue 2), it is noted that the color number of the comparative examples (non-alpha) vs. the invention (alpha) is much higher and therefore appears to provide an unexpected property. However, the data is not commensurate in scope with the breadth of the instant claims. The examples only used one alpha-hydroxy carboxylic acid (tetramethylammonium hydroxide) and therefore the examples fail to suggest to a person of ordinary skill in the art that any quaternary ammonium component in combination with any alpha-hydroxy carboxylate would result in the same

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decrease in color number. As such, a prima facie case of obviousness still exists because from the presented data it appears that only one alpha-hydroxy carboxylate component produces the unexpected result.

In response to issue 3), the applicants' suggested that lactic acid is known to act as a blowing agent, which would not be a desired advantage in the preparation of isocyanurates. The applicants' provided no data/reference that indicates such a conclusion and because the Joern reference discloses it as useful in polyisocyanurate conversion a person of ordinary skill in the art would conclude that lactic acid is a catalyst for isocyanurate conversion and is not a blowing agent (based on the prior art provided). Furthermore, the applicants' disclosed lactic acid in the claims as a viable alpha-hydroxy carboxylate, so the advantage of using lactic acid as a catalyst for isocyanurate conversion must outweigh the disadvantage of the lactic acid acting as a blowing agent.

In response to issue 4), the examiner found that the use of carboxylic acids for isocyanurate conversion is known and that from the disclosure of Joern the carboxylic acid can be chosen from alpha-hydroxy, beta-hydroxy or no-hydroxy and the conversion from isocyanate to isocyanurate will still proceed. The fact that hydroxy-substituted ammonium components was found to increase color number is irrelevant to adding the hydroxy-substituent to the carboxylic acid component.

/Milton I. Cano/

Supervisory Patent Examiner, Art Unit 1763